

AMENDMENTS TO THE CLAIMS

The following listing of claims replaces all prior versions and listings of claims in this reissue application:

1. (Original) A plant for producing a nonwoven fabric at least of synthetic fibres comprising:

at least one air-laying station comprising:

an endless wire,

a suction box, which is connected to a vacuum pump, said suction box being placed under said endless wire,

a house with one or more fibre inlets, said house being placed above the upper part of said endless wire,

a number of rotatably arranged wings for during operation distributing the fibres in a non-woven web upon the upper part of said endless wire, said wings being placed above said endless wire in said house,

at least one heat-treatment station for bonding the synthetic fibres by heating the web, said heat-treatment station being arranged downstream of said at least one air-laying station,

at least one hydro-entangling station for directing a number of powerful liquid jets against the bonded web, said hydro-entangling station being arranged downstream of said at least one heat-treatment station, and

means for continuous transport of the web through the plant.

2. (Original) A plant according to claim 1 wherein at least one drying station for drying the hydro-entangled nonwoven web is arranged downstream of the hydro-entangling station.

3. (Original) A plant according to claim 2 wherein the drying station is adapted to act upon the hydro-entangled nonwoven web with temperature sufficient to further bond the synthetic fibres.

4. (Original) A plant according to claim 2 wherein the drying station comprises a rotatable drum which has a perforated wall for during operation supporting a length of the hydroentangled nonwoven web and simultaneously allowing a stream of air to pass.

5. (Original) A plant according to claim 1 wherein the plant comprises at least three in succession arranged airlaying stations.

6. (Amended) A nonwoven fabric in the form of a three-layered hydro-entangled sandwich fibre web comprising at least synthetic fibres and cellulosic fibres produced in a plant comprising:

at least one air-laying station comprising:

an endless wire,

a suction box, which is connected to a vacuum pump, said suction box being placed under said endless wire,

first, second, and third air-laying forming heads each comprising a house with one or more fibre inlets, said house being placed above the upper part of said endless wire[,] and a number of rotatably arranged wings for during operation distributing the fibres in a non-woven web upon the upper part of said endless wire, said wings being placed above said endless wire in said house,

at least one heat-treatment station for bonding the synthetic fibres by heating the web, said heat-treatment station being arranged downstream of said at least one air-laying station,

at least one hydro-entangling station for directing a number of powerful liquid jets against the bonded web, said hydro-entangling station being arranged downstream of said at least one heat-treatment station, and

means for continuous transport of the web through the plant,

wherein the non-woven fabric is produced by:

supplying synthetic fibres to the first forming head for forming a layer of the web;

supplying cellulose fibres to the second forming head for forming another layer of the web;

supplying synthetic fibres to the third forming head for forming another layer of the web;

successively laying the layers on top of one another whereby a three-layered sandwich fibre web is formed;

hydro-entangling the thus formed web for forming a strong bond between the fibres in the layers of the web; and

heating the web at the heat-treatment station for bonding the synthetic fibres and drying the web.

7. (Amended) A nonwoven fabric according to claim 6 wherein at least part of the synthetic fibres are bi-component fibres, which each consists of a core of a first plastic surrounded by a second plastic having a [higher] lower melting point than the first plastic.

8. (Amended) A nonwoven fabric according to claim 6 wherein the fabric comprises cellulose fibres present in an amount of between 50% and 95%, wherein the cellulose fibres are provided in the web by forming a separate layer of the cellulose fibres and associating the layer of cellulose fibres with the layer of synthetic fibres prior to hydro-entangling and heating of the web.

9. (Amended) A nonwoven fabric according to claim [6] 8 wherein the fabric comprises cellulose fibres present in an amount of between 60% and 90%.

10. (Amended) A nonwoven fabric according to claim [6] 8 wherein the fabric comprises cellulose fibres present in an amount of between 75% and 85%.

11. (New) A nonwoven fabric according to claim 6 wherein the three-layered hydro-entangled sandwich fibre web comprises top, bottom and middle layers, with the top and bottom layers comprising the synthetic fibres and the middle layer comprising the cellulose fibres.

12. (New) A process for forming a three-layered hydro-entangled sandwich fibre web, said process comprising:

supplying to a first air-laying forming head fibres for the bottom layer, said fibres comprising at least synthetic fibres;

supplying to a second air-laying forming head fibres for the middle layer, said fibres comprising at least cellulose fibres;

supplying to a third air-laying forming head fibres for the top layer, said fibres comprising at least synthetic fibres;

forming the three layers in the each layer's separate forming head;

successively laying the layers on top of one another whereby a three-layered sandwich fibre web is formed;

hydro-entangling the thus formed web for forming a strong bond between the fibres in the web; and

heating the web for bonding the synthetic fibres and drying the web.

13. (New) A nonwoven fabric comprising the three-layered hydro-entangled sandwich fibre web produced by the process of claim 12.

14. (New) A nonwoven fabric according to claim 13 wherein the web comprises at least synthetic fibres and cellulosic fibres wherein at least part of the synthetic fibres are bi-component fibres, which each consists of a core of a first plastic surrounded by a second plastic having a lower melting point than the first plastic.

15. (New) A nonwoven fabric according to claim 14 wherein the fabric comprises cellulose fibres present in an amount of between 50% and 95%, wherein the cellulose fibres are provided in the web by forming a separate layer of the cellulose fibres and associating the layer of cellulose fibres with the layer of synthetic fibres prior to hydro-entangling and heating of the web.

16. (New) A plant according to claim 1, wherein the plant is used for production of a three-layered sandwich-fibre web.